

AMENDMENTS TO THE CLAIMS**Claims pending**

- At time of the Action: Claims 1-46.
- After this Response: Claims 1-5, 7-10, 13-15, 17-22, 24-26, 28-38 and 40-45.

Canceled or Withdrawn claims: 6, 11-12, 16, 23, 27, 39, and 46

Amended claims: 1, 7, 13, 17, 19, 24-25, 28, 40-41, and 43

New claims: None

1. **(Once Amended)** A method comprising:

creating a device template using a template language written in XML
syntax; and

defining, from the device template, a device description for a self-
describing network device; and

automatically evaluating, via a computer software tool, whether the device
description is well formed.

2. **(Original)** A method as recited in claim 1, wherein the template
language is derived from XML schema.

3. **(Original)** A method as recited in claim 1, wherein the self-
describing network device comprises a universal plug and play device.

4. **(Original)** A method as recited in claim 1, further comprising
storing the device description on a computer-readable medium.

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2 5. (Original) A method as recited in claim 1, further comprising:
3 creating a service template from a template language written in XML
4 syntax; and

5 defining, from the service template, a service description for a service
6 supported by the self-describing network device.

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8 6. (Canceled)

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10 7. (Once Amended) A method comprising:
11 creating a service template from a template language written in XML
12 syntax; and

13 defining, from the service template, a service description for a service
14 supported by a self-describing network device; and

15 automatically evaluating, via a computer software tool, whether the service
16 description is well formed.

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18 8. (Original) A method as recited in claim 7, wherein the template
19 language is derived from XML schema.

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21 9. (Original) A method as recited in claim 7, wherein the self-
22 describing network device comprises a universal plug and play device.

23
24 10. (Original) A method as recited in claim 7, further comprising
25 storing the service description on a computer-readable medium.

11. (Canceled)

12. (Canceled)

13. (Once Amended) A method of describing a ~~universal plug and play~~
a self-describing network device, comprising:

storing a description of the self-describing network device, the description
comprising a set of elements to describe the self-describing network device and an
XML-based syntax that structures the set of elements such that, when the data
structure is read by a computing device, the computing device can learn about the
self-describing network device; and

making the description available to the computing device; and

wherein the set of elements includes at least one of:

a first element to identify one or more versions of a template language;

a second element to identify the self-describing network device; and

a third element to specify a base universal resource locator (URL).

14. (Original) A method as recited in claim 13, wherein the storing
comprises storing the description at the self-describing network device.

15. (Original) A method as recited in claim 13, wherein the self-
describing network device comprises a universal plug and play device.

16. (Canceled)

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2 17. (Once Amended) A method as recited in claim 16 13, wherein the
3 second element includes at least one of:
4 a first subelement to specify a type of self-describing network device;
5 a second subelement to identify a user;
6 a third subelement to identify a manufacturer;
7 a fourth subelement to specify a URL of a website for the manufacturer;
8 a fifth subelement to provide a word description of the self-describing
9 network device for the user;
10 a sixth subelement to specify a model name of the self-describing network
11 device;
12 a seventh subelement to specify a model number of the self-describing
13 network device;
14 an eighth subelement to specify a URL of a website for the self-describing
15 network device;
16 a ninth subelement to specify a URL of a website for a presentation hosted
17 by the self-describing network device;
18 a tenth subelement to specify a serial number of the self-describing network
19 device;
20 an eleventh subelement to specify a universal device name of the self-
21 describing network device;
22 a twelfth subelement to specify a universal product code of the self-
23 describing network device;
24 a thirteenth subelement to specify any icons associated with the self-
25 describing network device;

1 a fourteenth subelement to identify any of one or more services supported
2 by the self-describing network device; and

3 a fifteenth subelement to identify any of one or more devices embedded
4 within the self-describing network device.

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6 18. (Original) A method as recited in claim 13, further comprising
7 storing a set of elements to describe at least one service supported by the self-
8 describing network device.

9
10 19. (Once Amended) A method of describing a self-describing network
11 device, comprising: as recited in claim 18,

12 storing a description of the self-describing network device, the description
13 comprising a set of elements to describe the self-describing network device and an
14 XML-based syntax that structures the set of elements such that, when the data
15 structure is read by a computing device, the computing device can learn about the
16 self-describing network device;

17 making the description available to the computing device; and
18 storing a set of elements to describe at least one service supported by the
19 self-describing network device, wherein the set of elements to describe the service
20 includes at least one of:

21 a first element to identify any of one or more actions performed by the
22 service; and

23 a second element to identify any of one or more state variables in the
24 service.

1 20. (Original) A method as recited in claim 19, wherein the first
2 element includes at least one subelement for each corresponding action, the
3 subelement containing a name string to hold a name of the action and an argument
4 list to hold parameters of the action.

5
6 21. (Original) A method as recited in claim 19, wherein the second
7 element includes at least one of:

- 8 a first subelement to identify a name of a state variable;
9 a second subelement to specify a data type of the state variable;
10 a third subelement to specify a default value of the state variable;
11 a fourth subelement to enumerate legal string values; and
12 a fifth subelement to define bounds of legal numeric values.

13
14 22. (Original) A method as recited in claim 13, wherein the storing
15 comprises storing the description at the self-describing network device, the
16 method further comprising storing a set of elements to describe at least one service
17 supported by the self-describing network device at a location remote from the self-
18 describing network device.

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20 23. (Canceled)

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22 24. (Once Amended) A data structure stored on a computer-readable
23 medium, the data structure being constructed according to an XML-based template
24 language, the data structure comprising: stored as recited in claim 23,
25 a set of elements to describe a self-describing network device; and

1 an XML-based syntax that organizes and structures the set of elements such
2 that, when the data structure is read by a computing device, the computing device
3 can learn about the self-describing network device;

4 wherein the set of elements requires:

5 a first element to identify one or more versions of the template language;

6 and

7 a second element to identify the self-describing network device.

8
9 25. (Once Amended) A data structure stored on a computer-readable
10 medium, the data structure being constructed according to an XML-based template
11 language, the data structure comprising; stored as recited in claim 23;

12 a set of elements to describe a self-describing network device; and

13 an XML-based syntax that organizes and structures the set of elements such
14 that, when the data structure is read by a computing device, the computing device
15 can learn about the self-describing network device;

16 wherein the set of elements includes at least one of:

17 a first element to identify one or more versions of the template language;

18 a second element to identify the self-describing network device; and

19 a third element to specify a base universal resource locator (URL).

20
21 26. (Original) A data structure stored as recited in claim 25, wherein the
22 second element includes at least one of:

23 a first subelement to specify a type of self-describing network device;

24 a second subelement to identify a user;

25 a third subelement to identify a manufacturer;

1 a fourth subelement to specify a URL of a website for the manufacturer;
2 a fifth subelement to provide a word description of the self-describing
3 network device for the user;
4 a sixth subelement to specify a model name of the self-describing network
5 device;
6 a seventh subelement to specify a model number of the self-describing
7 network device;
8 an eighth subelement to specify a URL of a website for the self-describing
9 network device;
10 a ninth subelement to specify a URL of a website for a presentation hosted
11 by the self-describing network device;
12 a tenth subelement to specify a serial number of the self-describing network
13 device;
14 an eleventh subelement to specify a universal device name of the self-
15 describing network device;
16 a twelfth subelement to specify a universal product code of the self-
17 describing network device;
18 a thirteenth subelement to specify any icons associated with the self-
19 describing network device;
20 a fourteenth subelement to identify any of one or more services supported
21 by the self-describing network device; and
22 a fifteenth subelement to identify any of one or more devices embedded
23 within the self-describing network device.

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25 27. (Canceled)

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2 28. (Once Amended) A data structure stored on a computer-readable
3 medium, the data structure being constructed according to an XML-based template
4 language, the data structure comprising: ~~stored as recited in claim 27,~~

5 a set of elements to describe a service supported by a self-describing
6 network device; and

7 an XML-based syntax that organizes and structures the set of elements such
8 that, when the data structure is read by a computing device, the computing device
9 can learn about the service supported by the self-describing network device;

10 wherein the set of elements includes at least one of:

11 a first element to identify any of one or more actions performed by the
12 service; and

13 a second element to identify any of one or more state variables in the
14 service.

15
16 29. (Original) A data structure stored as recited in claim 28, wherein the
17 first element includes at least one subelement for each corresponding action, the
18 subelement containing at least one of a name string to hold a name of the action,
19 an argument list to hold parameters of the action, and a data type of the
20 parameters.

21
22 30. (Original) A data structure stored as recited in claim 28, wherein the
23 second element includes at least one of:

24 a first subelement to identify a name of a state variable;

25 a second subelement to specify a data type of the state variable;

- a third subelement to specify a default value of the state variable;
- a fourth subelement to enumerate legal string values; and
- a fifth subelement to define bounds of legal numeric values.

31. (Allowed) One or more computer-readable media, comprising stored thereon:

- a first set of elements to describe a self-describing network device, the first set of elements being written in an XML syntax;
- a second set of elements to describe a service supported by the self-describing network device, the second set of elements being written in an XML syntax; and
- a code segment that, when executed, returns the first set of elements and at least a reference to the second set of elements to an entity requesting a description of the self-describing network device.

32. (Allowed) One or more computer-readable media as recited in claim 31, wherein the first set of elements are stored on a computer-readable media located at the self-describing network device and the second set of elements are stored on a separate computer-readable medium located remotely from the self-describing network device, but accessible via a network.

33. (Allowed) One or more computer-readable media as recited in claim 31, wherein the first set of elements includes at least one of:

- a first element to identify one or more versions of the template language;
- a second element to identify the self-describing network device; and

1 a third element to specify a base universal resource locator (URL).

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3 34. (Allowed) One or more computer-readable media as recited in claim
4 31, wherein the second element of the first set of elements includes at least one of:
5 a first subelement to specify a type of self-describing network device;
6 a second subelement to identify a user;
7 a third subelement to identify a manufacturer;
8 a fourth subelement to specify a URL of a website for the manufacturer;
9 a fifth subelement to provide a word description of the self-describing
10 network device for the user;
11 a sixth subelement to specify a model name of the self-describing network
12 device;
13 a seventh subelement to specify a model number of the self-describing
14 network device;
15 an eighth subelement to specify a URL of a website for the self-describing
16 network device;
17 a ninth subelement to specify a URL of a website for a presentation hosted
18 by the self-describing network device;
19 a tenth subelement to specify a serial number of the self-describing network
20 device;
21 an eleventh subelement to specify a universal device name of the self-
22 describing network device;
23 a twelfth subelement to specify a universal product code of the self-
24 describing network device;
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1 a thirteenth subelement to specify any icons associated with the self-
2 describing network device;

3 a fourteenth subelement to identify any of one or more services supported
4 by the self-describing network device; and

5 a fifteenth subelement to identify any of one or more devices embedded
6 within the self-describing network device.

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8 35. (Allowed) One or more computer-readable media as recited in claim
9 31, wherein the second set of elements includes at least one of:

10 a first element to identify any of one or more actions performed by the
11 service; and

12 a second element to identify any of one or more state variables in the
13 service.

14
15 36. (Allowed) One or more computer-readable media as recited in claim
16 35, wherein the first element of the second set of elements includes at least one
17 subelement for each corresponding action, the subelement containing a name
18 string to hold a name of the action and an argument list to hold parameters of the
19 action.

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21 37. (Allowed) One or more computer-readable media as recited in claim
22 35, wherein the second element of the second set of elements includes at least one
23 of:

24 a first subelement to identify a name of a state variable;

25 a second subelement to specify a data type of the state variable;

1 a third subelement to specify a default value of the state variable;
2 a fourth subelement to enumerate legal string values; and
3 a fifth subelement to define bounds of legal numeric values.

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5 38. (Allowed) One or more computer-readable media as recited in claim
6 31, wherein the code segment is configured to respond to an HTTP GET request
7 by returning the description in a body of an HTTP response.

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9 39. (Canceled)

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11 40. (Once Amended) A self-describing network device as recited in
12 claim 39 41, wherein the description data comprises a first set of elements a first
13 set of elements to describe the self-describing network device and a second set of
14 elements to describe a service supported by the self-describing network device.

15
16 41. (Once Amended) A self-describing network device comprising: as
17 recited in claim 39;

18 a memory;

19 a description of the self-describing network device stored in the memory,
20 the description comprising a set of elements written in an XML syntax to describe
21 the self-describing network device; and

22 a processor coupled to the memory to submit the description to a remote
23 entity on a network;

24 wherein the set of elements comprises at least one of:

25 a first element to identify one or more versions of the a template language;

1 a second element to identify the self-describing network device; and
2 a third element to specify a base universal resource locator (URL).

3
4 42. (Original) A self-describing network device as recited in claim 41,
5 wherein the second element includes at least one of:

- 6 a first subelement to specify a type of self-describing network device;
7 a second subelement to identify a user;
8 a third subelement to identify a manufacturer;
9 a fourth subelement to specify a URL of a website for the manufacturer;
10 a fifth subelement to provide a word description of the self-describing
11 network device for the user;
12 a sixth subelement to specify a model name of the self-describing network
13 device;
14 a seventh subelement to specify a model number of the self-describing
15 network device;
16 an eighth subelement to specify a URL of a website for the self-describing
17 network device;
18 a ninth subelement to specify a URL of a website for a presentation hosted
19 by the self-describing network device;
20 a tenth subelement to specify a serial number of the self-describing network
21 device;
22 an eleventh subelement to specify a universal device name of the self-
23 describing network device;
24 a twelfth subelement to specify a universal product code of the self-
25 describing network device;

a thirteenth subelement to specify any icons associated with the self-describing network device;

a fourteenth subelement to identify any of one or more services supported by the self-describing network device; and

a fifteenth subelement to identify any of one or more devices embedded within the self-describing network device.

43. (Once Amended) A self-describing network device comprising: as recited in claim 39;

a memory;

a description of the self-describing network device stored in the memory, the description comprising a set of elements written in an XML syntax to describe the self-describing network device; and

a processor coupled to the memory to submit the description to a remote entity on a network;

wherein the set of elements includes at least one of:

a first element to identify any of one or more actions performed by a service supported by the self-describing network device; and

a second element to identify any of one or more state variables in the service.

44. (Original) A self-describing network device as recited in claim 43, wherein the first element includes at least one subelement for each corresponding action, the subelement containing a name string to hold a name of the action and an argument list to hold parameters of the action.

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2 45. (Original) A self-describing network device as recited in claim 43,
3 wherein the second element includes at least one of:

- 4 a first subelement to identify a name of a state variable;
5 a second subelement to specify a data type of the state variable;
6 a third subelement to specify a default value of the state variable;
7 a fourth subelement to enumerate legal string values; and
8 a fifth subelement to define bounds of legal numeric values.

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10 46. (Canceled)
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